

9 Sick Day



You may feel healthy most of the time. But when you feel sick, you may turn to medicines for relief. How do you decide whether to take a medicine, and what kind of medicine to take? Can you use some of the methods scientists use to solve problems to decide which medicine to take?



What are the trade-offs of taking a medicine when you feel sick?

MATERIALS



For each student

- 1 Student Sheet 9.1, “Notes on Medicines”
- 1 Student Sheet 9.2, “Intra-act Discussion: Taking Medicines”

PROCEDURE

Part A

1. Assign a role for each person in your group.
2. Read the role-play aloud as a group.
3. Imagine you have the same symptoms as Sam has. Discuss what you think Sam should do and record your ideas in your science notebook.
4. In your science notebook, create a larger version of the chart shown below. In the chart, record the qualitative and quantitative facts about Sam’s illness. The first one is done for you.

Facts about Sam's illness		
Qualitative	Quantitative	
Sam feels awful	X	

FEELING SICK

Sam and his older brother and sisters are talking one Saturday morning.



Sam: I feel so sick. It's just not fair! Yesterday I felt fine, but today I feel awful. I don't want to miss the birthday party at the twins' house tonight.

Andrea: You must feel pretty bad to talk about missing a party. What's wrong?

Sam: You don't really want to know. My stomach hurts so much it feels like an elephant sat on it. I had to get up and run to the bathroom four times last night and now I feel dizzy and weak.

Marta: Sounds pretty bad. Let me feel your forehead . . . Oh yeah, you are hot. You probably have a fever.

Andrea: Here's the thermometer. Let's take your temperature.

Robert: Don't we have something Sam can take to feel better?

Marta: Hmm, you have a fever of 101.2°F (38.4°C). Let me check the medicine cabinet.

Andrea: I say aspirin is the best answer. It always works for me when I get a headache.

Sam: It doesn't always work for me when I have a headache.

Robert: Uncle Richard takes an herbal remedy. I forget what he calls it. He says it works for him and it's safer than medicines.

Andrea: Yeah, but Aunt Jan says herbal remedies aren't tested the way medicines are. She says you can't be sure they work and if they're safe.

Marta: We have fever medicines, herbal tea, and some stomach medicine. I could also give you some ginger ale or soup. That's what Mom always has when she is sick.

Robert: Why don't we get them and look at the labels?

Marta: Good idea. And I'll call the doctor and describe your symptoms. Dad left the number by the phone.

Part B

5. Read the doctor's response to Marta to learn more about Sam's choices:

"It sounds like Sam has a common stomach virus. He should feel better in a day or two as long as he drinks plenty of liquids. It's important that he doesn't get dehydrated. If his fever doesn't get any worse, Sam can decide for himself whether he would like to take any medicine."

"Fever and diarrhea are sometimes ways that the body fights off bad germs. They're the body's way of trying to make you better. But a fever reducer or diarrhea medicine may help Sam feel better now. It's up to him. I'm leaving town for a couple of days, so call the hospital if his fever goes up or if he doesn't feel better in two days."

6. Shown below and on the next page are the labels from the medicines that Robert found in the medicine cabinet. Use Student Sheet 9.1, "Notes on Medicines," to help you analyze the labels. Read them carefully as you decide what Sam should do.
7. Discuss what you think Sam should do. Record your ideas in your science notebook.
8. Mark whether you agree or disagree with the statements on Student Sheet 9.2, "Intra-act Discussion: Taking Medicines." Then predict what you think other members of your group will say. Discuss the statements with your group. Have each person explain his or her opinion about each statement.

Medicine A: Pain Reliever/Fever Reducer Tablet

Warning: If you consume three or more alcoholic drinks every day, ask your doctor whether you should take this product or other pain relievers/fever reducers. This product may cause liver damage. **Do not use** with other pain killers/fever reducers unless directed by a doctor. Keep this and all drugs out of the reach of children.

Stop using and consult a doctor if: · symptoms do not improve · new symptoms occur · pain or fever persists or gets worse · redness or swelling is present.

Medicine B: Pain Reliever/Fever Reducer Tablet

Warning: Children and teenagers should not use this medicine for chicken pox or flu symptoms before a doctor is consulted about Reye's Syndrome, a rare but serious illness associated with this medicine. Do not take this product if you are allergic to aspirin or if you have asthma, unless directed by a doctor.

Drug Interaction Precaution: Do not take this product if you are taking a prescription drug for anticoagulation (thinning the blood), diabetes, gout, or arthritis, unless directed by a doctor.

Medicine C: Diarrhea Tablet

Warning: Keep this and all drugs out of the reach of children. Do not use for more than two days unless directed by a physician. Do not use if diarrhea is accompanied by high fever (greater than 101°F), or if blood or mucus is present in the stool, or if you have had a rash or other allergic reaction to this medication. If you are taking antibiotics or have a history of liver disease, consult a physician before using this product.

Medicine D: Herbal Tea

This plant grows wild in the United States, and Native Americans have used it for centuries for a variety of purposes. This tea contains a blend of leaves, flowers, and stems of an organically grown plant. In modern studies, leaves, flowers, and roots of this plant have shown measured effects in supporting the immune system.*

*The Food and Drug Administration has not evaluated these statements. This product is not intended to diagnose, treat, cure, or prevent any disease.

ANALYSIS



1. What kinds of information are provided on the labels?

2. What questions do you have about the medicines?



3. Sam decided to make a decision based on the information he has. Think about all of the options available to Sam. He could

- a. drink liquids and wait until he feels better,
- b. drink liquids and take one of the medicines, or
- c. drink liquids and take a combination of the medicines.

If you were Sam, what would you do? Assume that Sam's medical history is the same as your own. Support your answer with evidence and identify the trade-offs of your decision.

Hint: To write a complete answer, first state your opinion. Provide two or more pieces of evidence that support your opinion. Then consider all sides of the issue and identify the trade-offs of your decision.

4. Explain whether you used more qualitative or quantitative evidence to make your decision. Support your answer with examples.



5. What are the trade-offs of taking a medicine when you feel sick?